



THOMAS G. NEWMAN, Editor.



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The Basswood Yield of honey is very limited, so far as reported. The all-but-universal cry is: "the honey crop is a failure." We shall hardly realize this year the poetic fancy of "nectar" expressed in the following lines found on page 197:

Sweet summer—one poetic dream
Of nectar and of flow'rs;
Of hazy halo o'er the lawn,
And sylvan woodland bow'rs;
Arcadian haunts, that poets love—
The mystic, the sublime,
Brought down to earth to rear aloft
An apiarian shrine.

Mr. T. W. Cowan, editor of the *British Bee Journal*, intends to visit some of the apiarists of prominence in America. He is accompanied by Mrs. Cowan, and will start on a Cunard steamer on the 9th inst., bound for New York. He intends to come as far West as Chicago, and would like to visit some apiarists on the way, either coming or returning. Those desiring a visit from Mr. Cowan should send an invitation by the 15th inst., to this address: "Mr. Thos. W. Cowan, care of the American Exchange, 182 Broadway, New York." Such will be informed if he can make it convenient to call on them.

Bees in a Bell.—The bell of the Rich Avenue M. E. Church, in Chicago, did not call the worshippers as usual last Sunday morning. Upon ascending to the steeple to see what the trouble was, Sexton Peck discovered that an immense swarm of bees had taken possession of the belfry, and were preparing to hive in the bell. Mr. Henry W. Reynolds followed the truants all the way from South Evanston, and, with a veil over his face, he spent Sunday morning in that belfry collecting the myriad of bees in a bag. Having succeeded in this, he transported the refugees back to his Evanston apiary. Mr. Reynolds says that this is the fifth "swarm" he has followed this year. One swarm led him a "wild chase" away up into Winnebago county, and had begun to hive in a hollow cotton-wood. He took them home, however, in triumph. We should think Mr. Reynolds would take measures to prevent his bees making him so much trouble—unless he enjoys the "fun" with the notoriety thrown in!

Another Blow, aimed at the industry of bee-keeping, may be found in *Harper's Bazar* for June 25, 1887. It is exceedingly strange that periodicals like those of the *Harper's* should descend to the degrading habit of publishing such falsehoods about an honorable pursuit. Here is the item:

One would suppose, by the way that honey in the comb, like the meat of an egg, was something not to be adulterated; that is, the egg taken directly from the nest, the honey from the hive; but a person of our acquaintance hearing of the immense use made of glucose in various adulterations, and especially in sugars and candies, thanked Heaven that at any rate one could fall back on honey which was necessarily pure.

"Not at all," replied a dealer in the article, "We put a large lump of glucose down before a hive, and the bees will consume it out of the hand—consume it all—and make their honey out of it, and as long as the lump lasts they will not spread a wing to find the sweetest flower that ever bloomed."

That "dealer" was either ignorant of the matter he was talking about, or else he was very dishonest.

It is well-known that bees will not feed on glucose until driven to it by starvation. They would wear out every wing in trying to find the flowers rather than to touch glucose close by their hives! And this talkative "dealer" ought to know that such are the facts in the case!

Again, bees do not "make honey"—they simply gather the nectar from the flowers and deposit it in their hives. It is precisely the same nectar in the combs that was gathered from the flowers, only that the heat of the hives evaporates some of the water, and it is slightly thicker. In rainy seasons the honey gathered sometimes contains so much water that it ferments; this shows that the bees gather just what they find, and that they do not "make honey" at all. Will the *Bazar* please correct these mis-statements as early as possible?

Bee-Grape Question.—This is how a San Diego, Calif., bee-keeper settled the controversy about the bees being able to attack and eat up sound grapes. From the *San Francisco Chronicle* we extract the following concerning the trial he made:

A San Diego bee-keeper has effectually settled for himself the question of the alleged damage done to grapes by his insect pets. He took a perfect bunch of grapes, every berry of which was sound and in good order, and suspended it in the middle of a hive of bees for an indefinite time. It remained there several weeks, or perhaps months, and at the expiration of the period was removed in as perfect a condition as when first put in the hive. Thousands of bees had been crawling all over the fruit during that time, only too eager to attack the toothsome juice thereof, but had been unable to satisfy themselves. The experimenter now has his mind fully made up on this moot question, and all the argument that could be made between now and doomsday would not alter his belief.

Now let this unreasonable war against the bees cease. The fruit-men have been fighting against their very best friends.

Hives of Bees, an exchange wisely remarks, should not be placed in close proximity to dwelling houses, stables, line fences or public highways, as the bees are liable to be disturbed and to become annoying, and often dangerous to people and animals.

The Honey-Bird of South Africa is in size and plumage about like an English sparrow. It acts as a detective for wild bees, and will lead men to bee-trees. A traveler in Africa thus describes it:

When this bird sees a man it will fly close to him, hovering around, uttering a twittering sound; then it will off in the direction of the place (generally a tree) where the honey is, flying backward and forward in a zigzag fashion. Then back it will come, twittering in the same manner, as if to say, "Come along, I'll show you where it is." These actions are repeated until the tree is reached, when the bird will indicate it very plainly by hovering around it.

If the distance is great (and sometimes the honey-bird will lead a person, who is willing to follow, a distance of ten miles), it will wait on a tree until the follower comes up, and will then continue its piloting. It is very persistent, and will do its best to draw any one on, but if the party is not posted about honey-birds, and refuses to follow, or goes in the wrong direction, the bird will leave, probably in search of some person who will appreciate its efforts to provide sweetmeats.

While the bees are being smoked out, and the honey taken up, the bird will hover in the vicinity until the job is done, when his reward comes in the shape of a feast on the fragments that are left. If it knows of other hives, just as soon as one is disposed of, it will lead the way to another, and I have, since this time, known as many as four trees taken up by a party in one day.

A Reception to Mr. Cowan is proposed by the *Canadian Bee Journal*. We cordially support the suggestion. It will be the most appropriate for the Canadians, who were so lately welcomed by Britons, to get it up, and invite the apiarists of the U. S. to unite with them in a "Welcome to America."

At Fairs a good plan to sell comb honey was noted in the *Canadian Bee Journal* some time since. As the Fairs are soon to be held, it may be well to give it a trial. It is as follows:

At the Toronto Exposition it was very easy for a person passing through the honey-house to perceive the simple and easy method of disposing of sections which had been but partially filled out. Thousands of sections may be sold at every Fair by the method there adopted. We think the credit is due Mr. J. B. Hall, of Woodstock, as the first who commenced selling in this way. It is done by cutting the sections from corner to corner, making four triangular pieces, laying them down on the wood, showing off the honey to the best possible advantage. The pieces sell very rapidly at 5 cents each, giving you 20 cents for each section. It would not pay to take sections that contained a full pound or more of honey, and cut them in this way. Every year bee-keepers are getting more and more into the habit of using narrower sections; and we are becoming convinced that sections more than 1½ or 1¾ inches are too wide to be profitable. We do not think many of our customers will use sections narrower than 1½ inches, perhaps not that wide. Cutting up the sections and selling the pieces at 5 cents each at the Exhibition, has become so popular that there must have been 25,000 or 50,000 people fed with honey during the two week's Fair.

Mark It.—We have received several local newspapers lately from our subscribers, in which nothing was marked. Please do not forget to mark any paragraph you wish us to read, when sending local papers to this office. We have no time to read 30 or 40 columns of matter in order to find a few lines that may be of interest to us or the pursuit. Mark it, either blue, black or red, with pencil or ink, as may be most convenient—but be sure to mark it.

QUERIES

With Replies thereto.

[It is quite useless to ask for answers to Queries in this Department in less time than one month. They have to wait their turn, be put in type, and sent in about a dozen at a time to each of those who answer them; get them returned, and then find space for them in the JOURNAL. If you are in a "hurry" for replies, do not ask for them to be inserted here.—Ed.]

Space below Brood-Frames.

Query 439.—1. My brood-chamber takes the Langstroth frame, but has a stationary bottom-board. Will the bees build brace-combs between the bottom-bars of the frames and the bottom of the hive, if as much as $\frac{1}{4}$ -inch space is given? 2. Would such a space be an advantage or detriment, or neither?—J. L., Vermont.

1. They would do so. 2. It would be a detriment.—J. P. H. BROWN.

1. I think not. 2. In winter it would be an advantage.—C. C. MILLER.

1. If they are crowded for room, they will, but not otherwise. 2. The space is not detrimental.—DADANT & SON.

1. No, I think not. 2. In wintering the space would be quite an advantage, I believe.—A. J. COOK.

1. Sometimes they might do so. 2. I should prefer a $\frac{3}{8}$ -inch space.—G. M. DOOLITTLE.

1. They will build comb in a $\frac{1}{4}$ -inch space if they have not room above. 2. Three-eighths inch space is plenty.—H. D. CUTTING.

1. No, not if they are properly handled during the surplus season. 2. It would be both, and perhaps when balanced, neither.—JAMES HEDDON.

1. I have not had comb built between the bottom-bars of the frames and bottom-board, except when crowded for room; then all available space is filled. 2. I think a $\frac{1}{4}$ -inch space is more than is necessary, but no great detriment.—G. L. TINKER.

1. They will certainly be apt to do so unless care is taken to give ample frame room. 2. I should consider such a space a detriment during the honey-flow, but I should consider it an advantage at other times, and especially during the winter, or when bees are to be confined in the hive.—J. E. POND.

1. I have never known bees to build brace-combs under the frames at the bottom of the hives, but I rarely ever allow more than $\frac{1}{2}$ -inch space under the frames, and I think this is about right. Bees will frequently build "stumps" of propolis under the frames. 2. I think $\frac{3}{4}$ of an inch greater than necessary, but it will do no harm after the bees get used to it. Thirty or more years ago I used hanging bottom-boards to my box-hives, and I noticed that when I first let them down in the spring to give more ventilation, it bothered the bees seriously until they got used to it.—G. W. DEMAREE.

1. They will not build brace-combs between the bottom-bars and bottom-board, even if the space is $\frac{1}{4}$ of an inch; but they will build little knobs of wax or propolis upon which to climb to reach the frames. 2. I do not know that it would be an advantage or a detriment in the summer. In the winter I like to have the hive raised an inch or two, but I prefer to put a rim under during the winter.—W. Z. HUTCHINSON.

1. Brace-combs at the bottom of the frames would be rarely built, unless the bees were much crowded for room. 2. Such a space might be advantageous in winter, and not particularly detrimental in summer; but $\frac{3}{8}$ of an inch would be preferable.—THE EDITOR.

Keeping Bees on Shares.

Query 440.—Suppose I rent one or more colonies of bees, I to do all the work, furnish the hives, sections, etc.—what share ought I to have when we divide the profits?—W. C., Mich.

Three-fifths.—DADANT & SON.

Two-thirds.—H. D. CUTTING.

Seventy-five per cent.—J. P. H. BROWN.

Two-thirds the honey, and one-half the increase.—G. M. DOOLITTLE.

Two-thirds or more. Much depends upon circumstances peculiar to the case.—JAMES HEDDON.

Let the other man furnish everything, or else pay you for it, then divide the surplus honey equally; the man owning the bees to have the increase.—W. Z. HUTCHINSON.

At least one-half, and I think two-thirds. Usually one-half is given where one does the work and the other owns the bees, and each shares equally the expense.—A. J. COOK.

According to my judgment two-thirds of the profits, including increase. But if you have the means to commence with, I would prefer to buy the bees and have all the profits. If not, of course take the bees and get a start by working it out. Work and patience guided by intelligence is the polar star of success.—G. W. DEMAREE.

I should say two-thirds, but the renting of bees is subject to so many conditions that it would be difficult to fix rates for every locality, as some are more profitable for bee-keeping than others.—G. L. TINKER.

The above question has been asked many times, but as yet I have never seen a satisfactory answer given. So much will depend upon the bees, the season, and the locality, that an answer that might apply to one region might not to another. Then again, a test in one season might not be a guide for the next, owing to causes over which we can have no control. "The proof of the pudding is in the eating."—J. E. POND.

About three-fourths of the honey and increase.—THE EDITOR.

Bees Purchased without a Queen.

Query 441.—1. On receiving a package of bees, is it advisable to put brood with them before they have accepted the queen? 2. What is your method of procedure in such a case?—G. B., Michigan.

As a rule, we would not buy bees without a queen.—DADANT & SON.

Yes, if you have not a queen to give them at once.—G. L. TINKER.

It is not essential; though if convenient, give a frame of brood.—J. P. H. BROWN.

1. I should guess no. 2. I never received a package of bees without a queen.—G. M. DOOLITTLE.

I am not posted upon this point; in all the bees that I have bought, a queen came with them.—W. Z. HUTCHINSON.

I give both at once, but I would introduce the queen according to the plans well known as successful.—A. J. COOK.

1. It would do no harm, if it did no good. 2. Run the bees into a hive containing a caged queen, and release the queen as soon as practicable.—H. D. CUTTING.

1. Yes, give them young brood and eggs. 2. This question involves too long an answer for this department.—JAMES HEDDON.

I should hive them on frames of comb containing brood, and should introduce the queen at the time of hiving. The novice would do better to use a little precaution in the introducing of the queen, such as caging her for 48 hours within the colony before letting her loose.—J. E. POND.

1. A person who needs bees is not likely to have queens on hand to introduce to the bees when they arrive. I do not think it advisable to buy bees without a caged queen with them. Queenless bees will wear away half of their usefulness while making a journey of but a few days. 2. The way I would proceed with a package of bees without a queen is as follows: Place a frame of sealed brood—rather brood in all stages—in a hive with some other combs or frames filled with foundation, and hive the bees in the usual way. If I have a queen to give them at once, she is caged, and the cage is placed under the quilt on top of the frames until the bees accept her. Otherwise the bees are permitted to rear a queen from the brood given them.—G. W. DEMAREE.

Give them both eggs and brood, or introduce a queen by some of the methods heretofore given in the BEE JOURNAL.—THE EDITOR.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now so cheap that no one can afford to do without it. We will present a **Binder** for the BEE JOURNAL to any one sending us three subscriptions—with \$3.00—direct to this office. It will pay any one to devote a few hours, to get subscribers.

Correspondence.

This mark \odot indicates that the apiarist is located near the center of the State named: \odot north of the center; \ominus south; \oplus east; \ominus west; and this \odot northeast; \ominus northwest; \oplus southeast; and \ominus southwest of the center of the State mentioned.

For the American Bee Journal.

"Liquid" or "Extracted" Honey.

G. W. DEMAREE.

Allow me to say that the editorial on page 291, concerning my answer to Query 415, hardly does me justice. The question was about "extracted honey," and I simply gave my experience and views on the subject. Certainly the language used in that place cannot be fairly construed as being a proposition on my part to substitute the word "liquid" for "extracted." I only say that having found the name "extracted" in my way in making sale of honey, I "now call it liquid honey."

But now since the question has been raised as to whether the name "extracted," as applied to honey out of the comb, is or is not a "misnomer," I wish to call attention to the fact that honey has been sold largely on the markets under the name "extracted honey" for 8 or 10 years, and yet the name "extracted honey" has been all these years almost, if not entirely, ignored outside of the honey-producers, and a few large honey-dealers. This ought to settle the matter as to the question of misnomer.

The word "extracts," in commercial parlance, never applies to a simple article of food. The people are fully aware of this, and they are guided by simple reason and common-sense when they "want none of your 'extract' (of) honey."

I am not prepared to suggest an unobjectionable name for honey out of the comb, but I have found that when I speak of it as "liquid honey," I am promptly understood by my customers, and this saves me from a world of worrisome explanation. Honey, in its natural state, is a liquid. It never granulates in a temperature as high as that of the immediate brood-nest. It will never granulate if the place where it is kept has a uniform temperature but a little below that of the brood-nest filled with live bees. The fact is, low temperature is the cause of honey granulating. There has been a jar of honey in our family cook-room for 8 years, and it has never showed any signs of granulation, for the simple reason that this room is kept at a high temperature the year around. The fact that water will become solid, syrups granulate, and pure honey become semi-solid when subjected to low temperature, seems not to have frightened Webster and other high authorities from speaking of them as liquids, or by other terms equivalent to that.

While I am persuaded that it would put millions of money into the pockets of the honey-producers of this country to drop the misnomer "extracted" for a more appropriate name for the article, I have little hope that it will ever be done. Prejudice and sentimentality is likely to stand in the way of the correction of even so great a mistake as is the name given to our great staple product of the apiary.

As a matter of course, practical bee-men know that the name "extracted" refers to the mechanical action employed to draw the liquid honey from the waxen cells, and not to the quality or state of the article. But right here is where the trouble lies—when the name "extracted honey" is mentioned, the bee-man has in his mind mechanical action, but the consumer thinks of nothing but quality or state of the article.

That shrewd, enterprising honey-dealer, Mr. Chas. F. Muth, detected this serious trouble in the name "extracted" some years ago, and tried to remedy it by adding the word "machine" before "extracted." Thus: "machine extracted honey."

"Strained honey" is objectionable on account of the impurity of the dirty stuff sold under that name in the olden times. Still it would have been much better to have held on to the old name, depending upon the superior quality of the centrifugal-machine honey, over the old pressing system of freeing the liquid honey from the wax, etc., than to have adopted a name that a majority of consumers treat with contempt. I shall call it "liquid honey" until some one gives us a better name.

Christiansburg, δ Ky.

[True, Bro. Demaree, the word extracted is objectionable, as we stated on page 291. We want a better name, and must discuss the appropriateness of such names as are used, whether proposed or not! Liquid is not the word—will not be acceptable—and will not be adopted. Bro. Demaree, will you please give us something better, and then we will give you in return a rousing "vote of thanks." We want a change—but it must be for the better.—Ed.]

For the American Bee Journal.

No Comb Foundation in Sections.

W. Z. HUTCHINSON.

Since the publication of my article on page 341, I have received quite a number of letters upon the subject. In one of them the writer, Mr. J. Tomlinson, of Allegan, Mich., remarks as follows:

"What you say about foundation in comb honey is in accordance with my views. I have never used full sheets of foundation in sections, only starters from 1 inch to 1½ inches in

width, yet I find that this tough centre of 'leather' seems to extend down through the whole comb. I have often heard Mr. T. F. Bingham say, when dilating upon the beauty and excellence of honey comb, 'That as melted butter is only grease, so melted honey-comb is only wax, and not fit for food.' So I think you are doing a good work to raise the note of warning, that in the strife after quantity we are likely to sacrifice quality....

"I would like to get rid of foundation in sections altogether. How would a starter of wood answer? Say we cut a thin saw-kerf in the centre of the top end of the wide pieces of the sections, deep enough so that a thin wood-starter could be slipped in just under the top piece, the starter to be say three-sixteenths of an inch wide, and one-thirty-second of an inch thick. To make sure that the bees would build on them, they might be waxed and run through a foundation mill. The only objection that I can see would be that these starters would be a little in the way when cutting the honey from the sections."

A bee-keeper in Texas sent me a sample of foundation made from wax that is naturally white. It is made from cat's-claw honey. He argues that the use of such foundation would remove the objectionable yellow color. True; but we cannot all secure foundation of this cat's-claw honey wax, and even if we could, we must remember that, "as melted butter is only grease, so melted honey-comb is only wax." I think this comparison of Mr. Bingham's is imitable. We all know that melted butter is grease, and we bee-keepers are equally well aware that when honey-comb has been melted it has lost that fine, delicate, flaky, crispy, brittleness; in short, it is wax, and where is the bee-keeper who cannot detect its presence in the honey he is eating, let it be rolled out ever so thin? I know that Mr. Doolittle reported that he used some foundation so thin that it offered less resistance to a wire thrust through the comb built upon it than did natural comb. But thrusting a wire through a comb of honey is not eating it. "The proof of the pudding is in the eating." This is the final test to which all edibles must be subjected.

I have not written all this with the hope that it would induce bee-keepers to give up the use of comb foundation in the sections, as I well know that they will not do this unless we can offer some substitute; but rather with the thought that it may lead them to exercise greater care in securing foundation. So long as we do use foundation in the sections, let us use that made from the cleanest and purest of wax, and that which has the thinnest possible base. Instead of using wooden starters, as suggested by Mr. T., I would use starters of natural comb. There may be some difficulty in securing sufficient natural comb to fill the sections, but enough for starters can be obtained with no great difficulty.

Rogersville, δ Mich.

Translated from the German.

How do Bees Recognize each Other?

M. SCHACHINGER.

It is surely a striking phenomenon, that so many thousands of bees that live in the same hive, and under one queen, and whose period of life in summer time does not exceed six weeks on the average, can recognize each other so quickly and surely as to be able to detect a strange bee, scarcely differing from themselves in shape, size, and color, that is unhesitatingly attacked by a sentinel and forced out of the entrance in a fierce encounter. The bees seem to make an exception to this rule (of making strange bees keep their distance), only in the case of very young bees; that is, those taking their initial flight, and happening to alight at the wrong entrance, and of those which, coming to the hive laden with honey or pollen, miss their own home because of exhaustion, inclement weather, etc., and are compelled to seek one elsewhere. This is readily granted them, and henceforth they become true members of the family which has adopted them; and should they, in their turn, become sentinels, they would undoubtedly attack their own sisters, in case the latter tried to force an entrance into the hive.

A personal acquaintance of the bees with each other we must deny absolutely, because of the enormous number belonging to a single colony, their short life in summer, and because all are rarely in the hive at the same time. Neither can color be a sign of mutual recognition; for bees to whom a queen of a differently colored race has been introduced, do not molest the progeny of this new queen, this progeny having a color differing greatly from that of the first queen. We therefore have remaining, speech, and the sense of touch and smell, which may serve them as a means of recognition.

For a long time bee-keepers were of the opinion that a kind of speech existed among the bees, and that, accordingly, a certain watchword (so to speak) enabled them to distinguish strangers from those belonging to their own hive. Of course bees have certain sounds by which they express emotions, and cause themselves to be understood outside the hive; for instance, the vehement, shrill cry produced by an angry bee that wishes to drive us from the vicinity of the hive, soon attracts a number of sister-bees from neighboring hives, whose combined attack finally compels us to beat a hasty retreat. Similarly does the swarm know how to call its thousands of members together in a few minutes, by the well-known joyous call-note.

But all of these sounds, of which the human ear has been able to detect nearly thirty, and judge of the meaning, are such as are common to all the bees, and by which, it is true, they can express the most diverse emotions, but which can never serve as the watchword of a colony of bees.

Others thought that bees recognize each other by the sense of touch, for they have often been observed to cross their antennae in the hive, as if in the act of communicating something to each other. This view has a strong claim to probability, with this modification, that the sense of smell also has its seat in the antennae, so that not the sense of touch, but that of smell, forms the means of mutual recognition. Now, if this same sense serves such a purpose, there must be in every hive a being that is capable of giving to all its inmates a peculiar and distinct odor. Without doubt we can consider the queen to possess this function, which, in passing hither and thither through the hive, gives to each and every bee the same odor, which act, as has been observed, takes place by the queen ejecting a fine fluid. This explains the fact that those bees, coming home honey laden, and whose odor is rendered less intense by flying through the air, and by coming in contact with so many flowers, can gain admittance even into strange hives, without being hindered thereat. The fact of their being loaded with honey is not the reason why the sentinel bees allow them to pass, but it is the neutralized odor which prevents the sentinels from distinguishing them from the bees of their own hive.

If we take bees that have, in consequence of fear, annoyance, or similar causes, filled themselves with honey in the hive, and put them in the entrance of another hive, they will, in spite of their being loaded with honey, be attacked and pulled out without much ado; a proof that it is not the honey carried by the bees, but some other factor which determines the acceptance or repulsion of a bee. The young bees which are generally readily accepted by neighboring colonies seem to be infected by the odor of the queen as much as the older ones, which accounts for their immunity from attack. In the case of other beings, also, youth enjoys a certain indulgence. Why, then, should bees be so cruel to their young? Robber bees that enter a strange hive to carry its stores to their own are at first violently attacked and energetically repelled; but if they are successful several times, they can thereafter enter and leave the hive untouched. They have, in all likelihood, been infected by the odor of the queen during their stay in the hive, and therefore cannot be distinguished by the sentinel bees, which have probably soon accustomed themselves to the smell of the robber bees, because the latter generally enter a hive in large numbers.

The following, also, in itself a very striking fact, is easily explained if we accept the above supposition; namely, that bees from hives containing impregnated queens, unite neither among themselves nor with swarms having unimpregnated queens; whereas the latter kind of swarms unite with each other most readily, and their queens quietly engage in the decisive struggle. It is probable that the unimpregnated queen ejects none,

or very little of the above-mentioned fluid, so that the odor of the bees which are with her is less marked.

Far from the hive, while gathering stores, bees are outspoken cosmopolitans, neither troubling themselves about their foraging neighbors, nor knowing envy; but they are impelled solely by their instinct to make the most of nature's treasures. At home they are jealous of every stranger; in the field they magnanimously give way to each other.

A Short Chapter for Beginners.

JUST WHAT THEY WANT TO KNOW.

We are often requested to give a short chapter for those who are just commencing the business of keeping bees, and we will now treat them to the following which was written for a family newspaper, and will answer many questions usually asked by the uninitiated, some of which occur in this very issue of the AMERICAN BEE JOURNAL:

If you observe a colony of bees a few minutes you will see that there are three different kinds of the insects, varying somewhat in shape and serving three distinct and exclusive purposes. One kind is a big, fat healthy-looking fellow, large of girth, and so blunt at its rear extremity that it looks as though part of its body had been chopped off. This is the male of the species, the despised drone which the world-over serves as a symbol of idleness. He is permitted to live only that he may enable the queen-bee to contribute to the increase of the hive, and, when that purpose is served, dies instantly. He is in a minority appropriate to his peculiar condition. It is estimated that 16 ounces of bees, which would fill a cup holding 5 gills, would number over 5,300. Of these perhaps not more than 175 would be drones. The drone has no sting.

Looking again at the colony you will see hundreds of bees smaller than the drone, with a very slender waist and a narrow body pointed in the rear. These are the workers, and they have stings. It was at one time thought that the workers had no sex, and they were known as neuters; but recent observations have demonstrated beyond a doubt that the workers are females, capable even of laying drone eggs.

Somewhere in or around the colony, and never very far distant, you will see a bee longer than either the drone or the worker, more graceful in outline, and altogether a superior-looking insect. This is the queen, the central figure of the colony, the controlling force, the royal ruler, and the egg layer. From a commercial standpoint the most important function of the queen is the last named. In a very temperate climate the queen will deposit eggs ten or eleven months out of the year, and in the warm, fine

weather of this month or next, will lay 2,400 eggs a day. The queen may govern the sex of the bee produced from any given egg, and may produce drones without number independent of the co-operation of the male. A queen may live three or four years. Drones seldom die a natural death. Those hatched in the spring, and escaping the single duty they are called upon to perform, are killed by the workers in July or August, unless they happen to be in a queenless hive. In the latter case the workers evidently recognize the fact that the drone may be needed, and let him live. In a hive with a queen, the workers, when performing hard labor, often die when less than two months old. In a queenless colony, when they have little work to do, they sometimes live through their first summer, and even throughout the succeeding winter.

The bee eats various kinds of food, and necessarily has a complex feeding apparatus; there is a proboscis or trunk which is an extension of the lower lip, and which is thrust down into the cups of flowers for the sweets there to be found, or lapped in any fluids which the bee fancies. It has two stomachs. In the first it stores the honey gathered from flowers until such time as it is ready to yield it up, when it is ejected from the mouth, into which it is thrown from the stomach by the muscular contraction of the walls of the latter. The second stomach is used for the digestion of food.

Respiration is accomplished in a curious way. Instead of the air being taken into the body and acting upon the blood at a single point, as in the lungs, it reaches every part of the body through external air tubes with external openings. Without fresh air bees would die in a short time. The way in which ventilation is secured in a crowded hive, where the temperature ranges from 73° to 84° is strikingly illustrative of the intelligence of these wonderful insects. A certain number of bees, sometimes as many as twenty, are told off for this purpose. These fasten themselves by their feet to the floor of the hives, and there work their wings with tremendous speed, as if flying, and thus create a powerful current of air. Each bee works for about half an hour, when another takes its place, and thus contributes to the ventilation.

In the construction of honey-comb the bee uses large quantities of wax. This is a secretion of little pouches in the abdomen, and exudes from under the rings around the body of the bee in the form of plates or scales. These scales are removed when needed by the bee itself, or by some of its fellows. Bees themselves live upon the honey they take into their stomach, enough being reserved for their own sustenance when that intended for the comb-cells is ejected. But the young are fed upon the pollen or fertilizing dust of flowers, which is gathered by the bee, kneaded into a little ball, and placed in a cup-shaped hollow surrounded by hairs at the middle

joint of each of the hinder legs. The hollow is called the basket, and in it the bee carries the pollen to the hive, where it is stored until needed. There it is mixed with honey, partially digested, and fed.

Scientists have made the architecture of the cells a subject of profound research, and some of the problems solved are as interesting as any to be found in mathematics. A study of a piece of comb will reveal unexpected wonders, and intensify the respect for the marvelous architects that planned, and the builders that constructed it.

The cells being constructed, the queen is ready to begin laying eggs. The cells are of different sizes and shapes to suit the character of the future inmates. Those intended for the working bee are the smallest. The drones have a little larger cell, and the queen-bee eggs are each given a royal apartment fully one inch high by one-third of an inch wide.



THE DRONE BEE.

For three days no attention is needed save that the eggs must be kept warm, and this the nurses make sure of by grouping themselves around the comb in which the cells are placed. At the end of the third day the egg has developed a small white worm which is the larva. The utmost care is taken of this worm. It is fed with the pollen and honey mentioned above, and the greatest solicitude is shown for its welfare. In five or six days it has grown to such a size that it nearly fills the cell, and it ceases to eat. Its nurses then seal up the mouth of the cell with wax, and for 36 hours the larva devotes itself to spinning a cocoon. Three days later it becomes a pupa, and every part of the future bee can be seen through the transparent covering. Inside of a week, or 21 days from the time the egg is laid, a perfect bee steps forth. Its nurses gather around it with every appearance of joy, caressing it with their tongues, and feeding it liberally. For a few days it remains in the hive, acting as a nurse, and then it begins its work as a honey-gatherer.

But if the egg is destined to become a queen, it is fed a peculiar jelly which seems to have the remarkable property of converting a worker egg into a queen if desired. A queen is born sixteen days from the day the egg is laid, but she is not always permitted to come out from her cell. The old queen hates her young rivals so bitterly that should they be permitted

to come within her reach she would instantly kill them.

The nurses live in hopes that the old queen will swarm, which is to lead part of the colony out of the hive to a new home, and as long as there is any prospect of her doing so, they will protect the young queens. Should the queen-mother leave the hive for good, the young queens are liberated one by one a few days apart in order to prevent their destroying one another. Should two get out at the same time, they immediately fight until one is killed.

Official Report of U. S. Entomologist.

Bee-Forage a Necessity.

N. W. M'LAIN.

[The following is an extract from the Official Report of Mr. McLain to the United States Entomologist, for the year 1886, and now just issued by the Department of Agriculture, at Washington, in its "Reports of observations and experiments in the practical work of the Division, made under the direction of the Entomologist."—Ed.]

If excellence in the bee is the chief factor in successful honey-producing, next in logical order is abundant, persistent, and cheap bee pasturage. Abundant pasturage is the amount necessary to satisfy the requirements of the number of colonies kept within a given area. Persistent pasturage is that which contemplates a variety of perennial honey bearing flora of hardy constitution and rugged habits, whose terms of blooming follow each other in succession continuously from early spring to late fall, thus lengthening out the season in which bees may gather surplus honey. Cheap bee-pasturage may be such as is furnished from natural sources produced in forests or by self propagating plants growing in waste places or upon lands of little value, and requiring little or no labor. Or, cheap bee-pasturage may be secured by cultivating fruit and field crops, the blossoms of which are valuable for honey-bearing.

As the forests of the country disappear, and the waste lands are being reclaimed, as the necessity for other honey-producing resources is felt, as the industry assumes more importance, and as the influence of competition is more sharply felt, great interest is shown in the subject of bee-pasturage. The number of days in each year in which bees can gather and store surplus honey will not average, except in exceptionally favored localities, above 30 or 35 days; the remaining time and energies of the bees being employed in gathering sufficient for the sustenance of the colony, and enforced idleness or non-productiveness. Enforced idleness, and the consequent waste of time, stores and energies sometimes result from a failure of the flowers to secrete nectar, even though the honey-bear-

ing flowers are blooming in abundance, but usually the reason why the time is so short in which bees are able to store surplus honey is the lack of abundant pasturage. I have not had the time or the means to devote to bee-forage that the importance of the subject demands, but I have made a beginning in this department of experimental work which I hope to continue.

Among all the trees and shrubs which are cultivated generally throughout the United States by fruit-growers, the raspberry is commonly conceded to possess more value to bee-keepers than any other. A quarter of a mile from this station a market-gardener has four acres of raspberries. These bushes continued to bloom for ten days, and during that time, with the exception of two or three rainy days, a continuous procession of bees could be observed going and returning to and from the apiary, and a fine showing of honey was made in the hives, and the honey was of superior quality.

On account of the superior quality of its nectar, the ease with which the plant is propagated, its adaptation to all kinds of soil, and its value as a forage plant for grazing, white clover has, until of late years, stood without a rival in the estimation of honey-producers. About twenty years ago Alsike, or Swedish clover, was introduced into this country, and since then has been thoroughly tested both as a honey-plant and also for hay and pasture for all kinds of stock.

Mr. J. M. Hicks, of Indiana, says: "Alsike clover has no superior as a honey-producing plant, yielding the best and richest honey known, and as a hay crop it is not surpassed, often producing three tons of good hay per acre. The stems and stalks are much finer than those of common red clover, and cattle, horses, and sheep feast on it, eating it clean without waste. As a pasture for all kinds of stock it has no equal. It will grow on all kinds of land, clay or sandy, and does not freeze out as easily as red clover. It is quite similar to red clover in appearance. The first crop each season is the seed crop. The seed is about one-third the size of red clover, and 4 pounds is sufficient to sow an acre. The bloom is a beautiful pale, pink color. I have no hesitancy in saying that Alsike clover will produce 500 pounds of the richest and best honey per acre in a good season. I would recommend every bee-keeper to sow at least a few acres of Alsike clover."

Mr. W. Z. Hutchinson, of Michigan, says that it will pay to raise Alsike clover for honey alone upon land worth \$50 per acre.

Mr. C. M. Goodspeed says: "I have grown Alsike clover on my farm and watched its habits closely. It is very hardy, of extra quality of hay, and a heavy seeder, reaching in rare cases 10 bushels per acre. In this locality the second growth seldom yields much honey, but the first growth just 'swarms with bees' for about three weeks, or from the time the rich blossoms open until the seed is ripe. In my locality it begins to

yield honey shortly after white clover, and continues well into the basswood season. It yields twice as much honey as white or red clover."

Mr. D. A. Jones, of Canada, says: "I think too much can scarcely be said of Alsike clover as a hay and honey crop, and many of our farmers are waking up to the fact that it is to their interest to cultivate it largely in preference to almost any other crop. Red clover will soon be a thing of the past, as Alsike clover seed is now in great demand, not for seeding purposes, but also for use in dyeing. I am informed that large quantities are being shipped to Europe for that use."

Mr. A. I. Root, of Ohio, and Mr. L. C. Root, of New York, both speak of Alsike clover as the most valuable variety of clover for hay and pasturage, and recommend its cultivation as being of the first importance to bee-keepers. Statements testifying to the unequalled value of Alsike clover, both for hay and grazing purposes, and as a most valuable honey-plant, might be indefinitely multiplied. I cannot too strongly urge the bee-keepers of the United States to provide abundance of this forage for their bees, both by sowing the seed on their own premises, and also by inducing their neighbors to cultivate this variety of clover as the best for all purposes.

Sweet clover (*Melilotus alba*) abounds in this locality. This is a hardy plant of wondrous persistence, continuing in bloom from about July 1, until killed by frost. It is adapted to almost any kind of soil. In this part of Illinois it grows in rich soil by the wayside, or in deserted stone-quarries with equal luxuriance. As the plant will grow without any cultivation in by-ways and waste places, wherever the seed can obtain a foothold, and is a perennial, it is rightly reckoned among the number of excellent and cheap bee-forage plants.

Sweet clover will endure drouth well. During the long drouth of last season, bees in this neighborhood would have been entirely without resources for many weeks together had it not been for sweet clover. The quality of the honey is excellent, and under ordinary conditions the yield is altogether satisfactory. Much apprehension has been felt among farmers lest it become a noxious weed. Observing how readily the seed is carried in the mud on wagon-wheels and horses' feet in the spring, when the roads are bad, and the entire space in the highways is used for travel, belief has obtained that the fields would soon be invaded. Careful and continuous observation of the facts for five years past has convinced me that fears of trouble from this source are groundless. In but one instance have I seen sweet clover invade a plowed field, and that was for a distance of 3 rods on both sides of an old road leading into the field, and the seed had been carried in on wagon-wheels. This plant, being a biennial, is easily exterminated when desirable. I would recommend beekeepers to provide an abundance of

this forage, by scattering the seed in waste places, and by the roadside. Sweet clover is much more sightly and useful, and less objectionable, in every way, than the weeds which ordinarily cover the roadsides.

Pleurisy-root (*Asclepias tuberosa*) is a honey-bearing plant indigenous to nearly all parts of the United States, but its growth has not been encouraged for the reason that its value to the honey-producer has not been generally known. The plant is a perennial; the top dies and rots, a new growth springing up each year. It is commonly regarded as a harmless prairie-weed. The deep, red blossoms hang in clusters. The plant is very hardy, and of a rugged growth, growing luxuriantly in all kinds of soil. The honey is of the finest quality both as to color and flavor. Mr. James Heddon, of Michigan, speaking of pleurisy-root, says:

"If there is any plant, to the growing of which good land may be exclusively devoted for the sole purpose of honey-production, I think it is this; I would rather have one acre of it than three of sweet clover. It blooms through July and the first half of August, and bees never desert pleurisy for basswood or anything else. The blossoms always look bright and fresh, and yield honey continuously in wet and dry weather. Bees work on it in the rain, and during the excessive drouth of the past season it did not cease to secrete nectar in abundance." I have had some observation and experience with the plant, and, having secured seed, I expect to test it in different kinds of soil next season.

For two years past I have cultivated a plot of motherwort (*Leonurus cardiaca*) and I prize it highly as a honey-plant. Bees work on it continually all day, and every day, unless it is raining quite hard. The summer of 1885 it continued in bloom six weeks. Last summer it bloomed, but was soon ruined by drouth.

At the annual meeting of the North American Bee-Keepers' Society held at Detroit, in December, 1885, a committee, of which I was a member, was appointed by the association to investigate the merits of a new plant being cultivated by Mr. Chapman, of New York, who was present, and represented that the plant was of unusual value to honey-producers. Being instructed by you so to do, I met with other members of that committee on July 28, and our report was published.

Bee-Ranches in California.

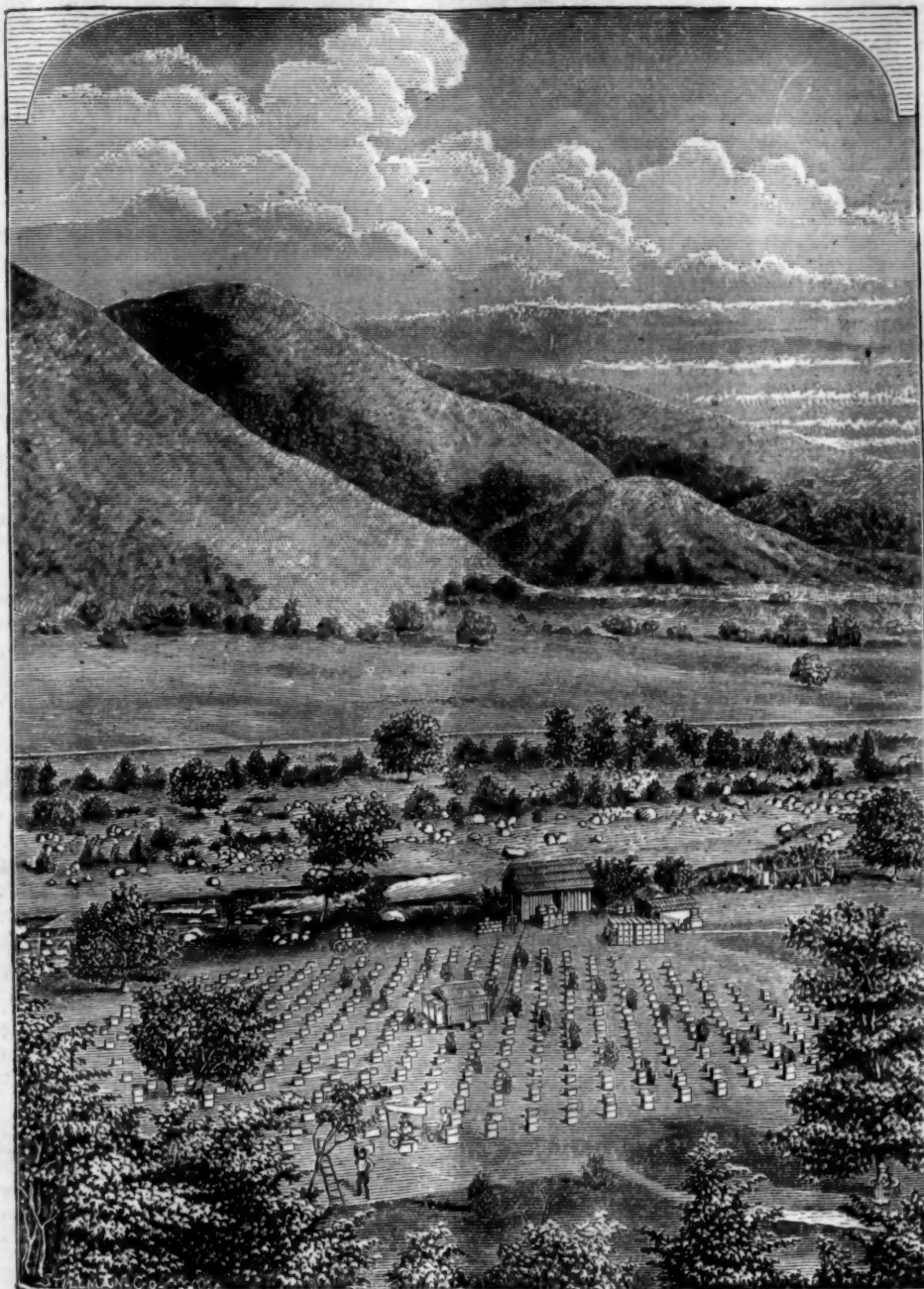
By favor of Messrs. Forth, Easley & Reppy, of San Buenaventura, Calif., we have a copy of the *Ventura Free Press*, from which we copy the following article on the honey-resources of that county, and the engraving showing the bee-ranch of Mr. R. Wilkin, a well-known writer on apiculture:

When California was admitted into the Union of States, the honey-bee

was unknown here. The first hives of bees were brought across the plains and commanded fabulous prices. But so finely adapted is this country to the production of honey, that swarms can be found in nearly every suitable tree, as well as in rocks, crevices, etc.

Rocky Mountains, never occurs here. While the mountains abound in white, purple and black sage, wild alfalfa with wild buckwheat, sumac, and other summer bloom, the foothills and valleys in the spring are covered with alfalfa, the bloom of which,

There are probably nearly 20,000 colonies of bees in Ventura county. Three years ago the county produced about 3,000,000 pounds of honey, but the next year was not so favorable, and but about half that amount was obtained. In many cases 400 pounds



BEE-RANCH OF MR. R. WILKIN, ON THE SESPE.

The mountains yield the sages and other bloom which affords the finest yield of honey. The mountainous regions which greatly predominate in the State, will ever be a prominent bee-pasture, while the wholesale slaughter of bees by cold, which is frequent in the States east of the

with mustard, enables the bees to fill their hives with bees by the time the finer honey-producing plants are in bloom. Honey is collected every month in the year. Southern California is noted for producing more and finer honey than any other portion of the world.

to the colony have been produced. One apiary of 700 colonies, and surrounded by bees amounting in all to 1,800 colonies, within the radius of one or two miles, averaged 130 pounds each. Another apiary containing 445 colonies in the spring, increased to 1,200, and yielded 80 tons of honey.

The larger portion is sold by commission merchants in San Francisco, orders being received by them from all parts of the world.

This industry can be greatly extended in this country. The best locations are at the mouths of canyons, where water is plentiful. Some apiarists cultivate a little land while taking care of their bees, and others indulge in stock-raising.

For the American Bee Journal.

Foul Brood—A Criticism.

J. E. POND.

I do not wish to be deemed disputatious, or to open up an acrimonious discussion, but I cannot believe that Mr. Hoyle's ideas in regard to "foul brood," given on page 393, are correct; and for the reason that they do not agree either with my own experience in the matter, or the views I have adopted after comparing my experience with that of others.

My first practical knowledge of foul brood was in 1868, and as that knowledge was gained through the loss of some 25 colonies of first-class Italians, at a time when I could have sold every colony for from \$25 to \$35 each, I feel that I have the right to think that I know something about that disease, and its symptoms. As to remedies and means of cure, I know absolutely nothing, save what I have learned by study, and I trust that I may never know more than I now do of the disease.

The disease was brought into my own apiary through feeding Cuban honey, that was not thoroughly scalded. This I know, because every colony so fed showed the disease in early spring, while those not so fed had no symptoms till two or three months later. At first I did not know what was the trouble, and of course I took no means either of prevention or cure; the result being that by the first of August every colony but one was infected, and, strange to say, this particular one never took the disease at all; probably because from its location and strength; it neither visited, nor was visited by the contaminated colonies.

Mr. Hoyle says: "I have known for nearly two years that old bees, as well as the larvæ, would be diseased"—meaning with foul brood. Now my experience is just the reverse of this. In my own apiary I have never known a diseased larva to emerge from its cell, or a mature bee to show any sign whatever of that disease; and from the very name given the disease, it cannot affect mature bees; if it does, it is of course wrongly named. I do not doubt that Mr. H. "mashed a bee that stung him, and that its excrement was black;" I do not doubt, either, that Mr. H.'s hives contained honey that was death to his mature bees; but I do doubt his conclusion, that honey-dew will ever of itself cause foul brood; and I do know, without being a scientist, that foul brood is sometimes caused by bacteria.

I know this because I have treated it, and tested it very carefully.

And further, my experience teaches me that while a "bee-keeper can (perhaps) have the disease in his apiary every year... and never notice it," it will not be many years before he will have no bees whatever to notice, unless he adopts and uses some of the remedies that have been proved to be efficacious in causing a cure. If the microscope did not show bacteria in foul brood, the fact that the remedies urged are of the nature they are, is sufficient proof to myself of bacteria.

In fact, not only my own experience, but the experience of every bee-keeper who has seen and known foul brood, and given the public the benefit of such experience, disproves the ideas stated by Mr. H.; and while perhaps he may be correct, and all the others, including Mr. Frank Cheshire (who certainly has given the subject more attention, scientifically, than any other, to my knowledge), wholly wrong, I still cannot believe him right without some little proof.

I do not know whether Mr. H. had foul brood in his apiary or not; I hope it may prove that he did not, and I trust that his advice in boiling suspicious honey will be taken, and for myself I will add to that advice: Do not feed it to your bees after it is boiled, if there is a chance that they will not use it up at once.

One question I must ask Mr. H., viz: How long does it take his bees to seal up their larvæ? He says, on page 394, that a close observer "will detect foul brood in discolored larvæ at least three weeks before he would see sunken caps."

As our editor well says, it is very important that we should all know the phases of this dread scourge of the apiary, and a perusal of Mr. Frank Cheshire's work will prove of the greatest value, as it is the only really scientific work we have from the pen of one who has studied the subject carefully from a scientific standpoint.

As I said at the start, I have not written for the purpose of provoking a discussion, but as Mr. H.'s article is a mere mass of statements, and as those statements are wholly at variance with the scientific opinions heretofore made public, I for one (and I presume all the many readers of the AMERICAN BEE JOURNAL) would like also to hear the proofs as we are striving to learn all the facts, not only in regard to foul brood, but to every department in bee-keeping.

Foxboro, Mass.

System and Success.

All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are reduced, as follows:

For 50 colonies (120 pages).....	\$1 00
" 100 colonies (220 pages).....	1 25
" 200 colonies (420 pages).....	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Local Convention Directory.

1887. *Time and place of Meeting.*
Nov. 16-18.—North American, at Chicago, Ill.
W. Z. Hutchinson, Sec., Rogersville, Mich.
Dec. 7-9.—Michigan State, at East Saginaw, Mich.
H. D. Cutting, Sec., Clinton, Mich.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

First Basswood Blossom, etc.—M. O. Tuttle, Osage, Iowa, on June 26, 1887, writes:

I send you the first basswood blossom that I have seen this year. It opened to-day. The forest is full of it, but it seems to me it is coming on early. Bees have been getting a little honey for the past ten days—some from white clover—and I see they are at work vigorously on the sumac. I have heard of swarming in the county, where the bee-yards have but few colonies. I have prevented it so far quite easily, but now will come the fun.

Light Crop Indicated.—S. Shoup, Coloma, Mich., on June 28, says:

The present indications are that we shall have the lightest honey crop for many years. Clover is drying up. Basswood will bloom by July 1, and unless we get rain the yield from basswood will be very light, and we have but very little honey on the hives now. Swarming is over in my yard. Bees are in fine condition.

Prospect Good for Basswood.—Dr. G. L. Tinker, New Philadelphia, Ohio, on June 27, 1887, writes:

Bees are doing only moderately well here, so far, but the prospect is good for basswood.

Development of Queens.—Patrick Keating, New Almaden, Calif., on June 20, 1887, writes:

I would like to have this question answered in your JOURNAL: In how many days does the queen begin to lay eggs after she is hatched, and drones are flying? My bees are always fighting, not for want of honey, as they are getting it nine months and more out of every year here in California. They are hybrids.

[About the fifth day after the queen emerges from the cell, if the weather is pleasant, she may be seen crawling about the entrance of the hive, and if the next day is propitious, she may try her wings some from the alighting-board. She will appear somewhat excited, but after awhile she will mount up and circle around, increasing the distance each time, to mark

the hive, and insure a safe return from her wedding flight.

In the warmest part of the afternoon, when the drones are flying, she will spread her beautiful wings and soar into the air to mate with a drone. If successful, she will bear the marks of it on her return; if not, she will, after a time on the same day, come out again and again, until it is accomplished. She will then return, going quietly into the hive, and in a day or two she will commence to lay; so that, generally, from 8 to 9 days after emerging from the cell, the queens are laying. Should the weather be unfavorable, and she fails to meet the drones within about 20 days, she will become only a drone producer.—Ed.]

Basswood Promising.—Dr. A. B. Mason, Auburndale, O., on June 25, 1887, writes:

Bees are in fine condition, but have no surplus from white clover. Linden (formerly basswood) looks exceedingly promising.

Severe Drouth.—M. M. Rice, Bos-cobel, Wis., on June 24, 1887, writes:

Bees are not doing anything this season. It is so very dry—we have had but one good rain this spring. Our pastures are all dried up, and clover is all dead. Basswood is two weeks earlier than usual, but if we do not have rain we will have no honey from that source. Bees have not honey enough in their hives to last two weeks. The outlook is very discouraging.

More Rain Wanted.—Jas. W. Mills, Melleray, O., Iowa, on June 19, says:

We had a tolerably good rain last evening—the first for some time. This part of the country was suffering badly for the want of rain, and we want more. Bees have done poorly.

No Surplus Honey.—A. F. Stauffer & Co., Sterling, O., Ills., on June 25, 1887, say:

Bees are hardly making a living. There has not been a pound of surplus honey taken in this neighborhood, so far this season.

A Swarm of Drones, etc.—E. Jarvis, Fairgrove, Mich., on June 23, 1887, writes:

A swarm of drones went from one hive to another on June 22, to one from which a swarm issued the day before. Has any one known such a circumstance? Two of us saw them come out and go into the other. Bees have done very well here, and especially in swarming. There is some surplus honey. In time of dandelion bloom, there was not much else in bloom, and I took from the hives 10 pounds of honey, which I think

was all dandelion, as it was very yellow and tempting to look at, and not much stronger than raspberry honey, which came next. There is a great deal of white clover here, but it seems it is not overflowing with honey. In natural swarming does the old queen lead out the first swarm?

[Yes; the old queen goes with the first swarm, though she does not lead the swarm; in fact very often she is the last to leave the hive after the swarm has left; and not finding the queen with them, the bees return to the hive to try it again, and sometimes again and again. If unsuccessful then, the bees will generally wait for a new queen to be hatched, and take her with them.—Ed.]

Linden and Sweet Clover.—C. H. Dibbern & Son, Milan, O., Ills., on June 23, 1887, write:

The season here may as well be put down as an entire failure, as far as surplus honey is concerned. Although our hives have been overflowing with bees since early in May, yet they have not held their own in weight. Linden gave us some honey; but it came so early, and was of so short duration that the bees made but a sorry showing in the sections. The linden is now about done blooming, and sweet clover is just opening, but there is not enough of it to give us any surplus honey. Altogether the outlook in this part of the country is not encouraging. The general report is, "few swarms and no honey."

[How remiss have they been in their duty, who have neglected to provide their bees with the abundance of pasturage which sweet clover gives.—Ed.]

Basswood Full of Buds, etc.—J. W. Buchanan & Bro., Eldora, O., Iowa, on June 23, 1887, write:

This spring has been the hardest on bees that we have ever experienced. In April we put out 19 colonies of bees, wintered in the cellar and a cave. We lost in wintering 18 colonies, and since putting them out 14, making a total loss of 32 out of 37 put into winter quarters. All left plenty of honey in their hives; not one starved. White clover is a failure so far this spring and summer, but we have some hopes for it yet. Bees are working on sumac now, and basswood is commencing to bloom. It has been quite cool for the last two or three days, and there seems to be no honey in the blossoms as yet. The trees are very full of buds, and if the weather should prove favorable, we look for a good flow of honey from basswood. Some readers may say, "If I should lose so heavily as that, I would quit the business." But we do not propose to do so. We are going to keep bees any way! We shall make it win after awhile. I am glad to see that the editor takes so decided a stand on the

"Kissing Bees" articles. It seems to us that this concerns all bee-keepers, and I think he will be pleased to know that he has their approval.

Hoary Vervain, etc.—T. M. Herrick, Woodstock, N. Y., on June 23, 1887, says:

I send you a sample of flower which grows abundantly in this locality along the streams, and on which our bees work eagerly. I have noticed them working in great numbers late in the afternoon on it. Please inform me through the BEE JOURNAL what it is, and if it belongs to the known famous honey-plants. White clover is just beginning to bloom in this section. Dry weather in May prevented much early honey-gathering, and therefore prevented early swarming; but they are doing better now, and most of the colonies are storing in the sections. I wintered 26 colonies on the summer stands, and lost none, all coming out strong but one, which was kept too warm with a quilt stuffed with cotton under the chaff packing.

[The stem and flower is that of the hoary vervain (*verbena stricta*), which grows abundantly along the streams, and in barren waste places in the Northwest. It grows 2 or 3 feet high, and has a dense spike of blue flowers. It is a good honey-producer.—Ed.]

Very Little White Honey.—John A. Thornton, Lima, O., Ills., on June 23, 1887, writes:

Our prospect of getting any white honey in this locality is very slim. My bees were in most excellent condition when clover began to bloom, but although there was an abundance of white clover bloom, bees scarcely gathered enough to fill their brood-chambers, and get well started to work in sections before the yield was past. I think the most there was secured came mainly from red clover, as more bees were at work on the red clover, seemingly, than on white clover. Basswood is in full bloom at present. The past two days has been so cold, and strong winds from the north, that no honey from that has as yet been gathered, and at its best there will not be much, on account of the scarcity of trees. Swarming did not amount to much; I have had 20 swarms from 130 colonies that were worked for comb honey, in two apiaries 5 miles apart. I should not put our average per colony, of surplus honey, at over 10 pounds, and expect it will be less when taken. I should be glad to hear from other localities, through the BEE JOURNAL, in regard to the yield of honey up to this time. The severe drouth that we have had I suppose caused the scarcity of nectar in clover, and changeable weather, from sultry heat to almost frosty nights part of the time, no doubt helped to cause a scarcity of nectar. Our bees are in good condition, if any unforeseen flow of honey does come.



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THOMAS G. NEWMAN & SON,
 PROPRIETORS,
 923 & 925 WEST MADISON ST., CHICAGO ILL.
 At One Dollar a Year.

ALFRED H. NEWMAN,
 BUSINESS MANAGER.

Special Notices.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

As there is Another firm in Chicago by the name of "Newman & Son," we wish our correspondents would write "American Bee Journal" on the envelope when writing to this office. Several letters of ours have already gone to the other firm (a commission house), causing vexatious delay and trouble.

We will Present Webster's Dictionary (pocket edition), and send it by mail, postpaid, for two subscribers with \$2. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Money Orders can now be obtained at the Post Offices at reduced rates. Five dollars and under costs now only 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them, and are in no way safe.

Red Labels for one-pound pails of honey, size 3x4½ inches.—We have now gotten up a lot of these Labels, and can supply them at the following prices: 100 for \$1.00; 250 for \$1.50; 500 for \$2.00; 1,000 for \$3.00; all with name and address of apiarist printed on them—by mail, postpaid.

Do you Want a Farm Account Book? We have a few left, and make you a very tempting offer. It contains 106 pages, is printed on writing paper, ruled and bound, and the price is \$3. We will club it and the Weekly Bee Journal for a year and give you both for \$2. If you want it sent by mail, add 20 cents for postage.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. As each separate fiber extends the whole length of the handle as well as the brush, they are almost indestructible. When they become sticky with honey, they can be washed, and when dry, are as good as ever. The low price at which they are sold, enables any bee-keeper to have six or more of them, so as to always have one handy. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

By Using the Binder made expressly for this BEE JOURNAL, all can have them bound and ready for examination every day in the year. We have reduced the price to 60 cents, postpaid. Subscription for one year and the binder for \$1.50.

We Supply Chapman Honey-Plant seed at the following prices: One-half ounce, 50 cents; 1 ounce, \$1; 2 ounces, \$1.50; 4 ounces, \$2; ½ pound, \$3; 1 pound, \$5. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Enameled Cloth for covering frames, price per yard, 45 inches wide, 20 cents; if a whole piece of 12 yards is taken, \$2.25; 10 pieces, \$20.00; if ordered by mail, send 15 cents per yard extra for postage.

Where to Keep Honey is the title of Leaflet No. 3. For prices see the second page of this paper. If you wish to see a sample of it before purchasing, send for it.

We pay 20 cents per pound, delivered here, for good Yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

Sample Copies of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office, or we will send them all to the agent.

Simmins' Non-Swarming System is the title of a new English bee-book. The author claims that it will inaugurate a "new era in modern bee-keeping," and states that "it is based upon purely natural principles, and is the only system that can ever be relied upon, because no other condition exists in the economy of the hive that can be applied to bring about the desired result—a total absence of any desire to swarm." It contains 64 pages; is well printed and illustrated. Price 50 cents. It can now be obtained at this office.

E. Duncan Sniffen, Advertising Agent, 3 Park Row, New York, inserts advertisements in all first-class Newspapers and Magazines with more promptness and at lower prices than can be obtained elsewhere. He gives special attention to writing and setting up advertisements in the most attractive manner, and guarantees entire satisfaction. In all his dealings, he is honorable and prompt. Send for his Catalogue of first-class advertising mediums. Mailed free. 52A40t

Honey and Beeswax Market.

The following are our very latest quotations for honey and beeswax:

CHICAGO.

HONEY.—Prices are about 10¢@12¢. for comb. Extracted, 5¢@7¢, according to quality and packages. Stocks and demand light.
BEESWAX.—22¢. R. A. BURNETT,
 June 9. 161 South Water St.

DETROIT.

HONEY.—Best white comb, 11¢@12¢. Market is nearly bare, awaiting the new crop.
BEESWAX.—23¢@24¢.
 June 10. M. H. HUNT, Bell Branch, Mich.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 5¢@5½¢; light amber, 4¢@5¢. Comb, extra white, 12¢@14¢; amber, 7¢@10¢. Market firm.
BEESWAX.—18¢@20¢.
 Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

CLEVELAND.

HONEY.—Choice white in 1-lb. sections, 12¢@13¢; second quality, 10¢@11¢; and buckwheat unsalable at 8¢@9¢. Extracted, 5¢@6¢.
BEESWAX.—25¢.
 Apr. 20. A. C. KENDEL, 115 Ontario St.

ST. LOUIS.

HONEY.—Choice comb, 10¢@12¢. Strained, in barrels, 3¢@4¢. Extra fancy, ¼ more than foregoing prices. Extracted, 4¢@6¢. Market dull.
BEESWAX.—Steady at 20¢ for prime.
 May 20. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: White comb, 12¢@14¢; amber, 7¢@10¢. Extracted, white, 4¢@5¢; light amber, 3¢@4¢. Market quiet.
BEESWAX.—19¢@21¢.
 May 14. O. B. SMITH & CO., 423 Front St.

MILWAUKEE.

HONEY.—Choice white 1-lb., 12¢@12½¢; choice 2-lb., 10¢@11¢; dark not wanted, and imperfect slow. Extracted, finest white in kegs, 6¢@7¢; in white in kegs and barrels, 6¢@7¢; dark, 4 to 4½¢; amber, in barrels, 4½¢@5¢. Demand limited and supply small.
BEESWAX.—25¢.
 June 10. A. V. BISHOP, 142 W. Water St.

NEW YORK.

HONEY.—We quote: White comb, 9¢@12¢; dark 5¢@7¢. California comb, 8¢@9¢; extracted, 5¢@6¢. Sales large and demand good.
BEESWAX.—23¢@24¢.
 May 10. MCCAUL & HILDRETH BROS.,
 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote: White clover 1-lb., 10¢@12¢; dark, 9 to 10¢. White clover 2-lb., 10 to 11¢; dark, 9 to 10¢. Extracted, 5 to 6¢. In small way. Market almost bare of comb and extracted honey.
 Jun. 16. CLEMONS, CLOON & CO., cor 4th & Walnut

BOSTON.

HONEY.—1-lb. packages of white clover honey at 13¢@15¢; 2-pounds at 11¢@13¢. Extracted, 5¢@7¢. Sales slow.
BEESWAX.—26 cts. per lb.
 Apr. 22. BLAKE & RIPLEY, 57 Chatham Street.

CINCINNATI.

HONEY.—We quote for extracted, 3¢@7¢. per lb. Best comb brings 11¢@14¢. Demand improving.
BEESWAX.—Good demand, —20¢@22¢. per lb. for good to choice yellow.
 Jun. 11. C. F. MUTH & SON, Freeman & Central Av.

Should any Subscriber receive this paper any longer than it is desired, or is willing to pay for it, please send us a postal card asking to have it stopped. Be sure to write your name and address plainly. LOOK AT YOUR WRAPPER LABEL.

Dr. Miller's Book, "A Year Among the Bees" (75 cts.), and the BEE JOURNAL for one year (\$1.00), both of which we will club for only \$1.50.

Preserve your Papers for reference. If you have no BINDER we will mail you one for 60 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Sweet Clover, (*Medicago alba*), furnishes the most reliable crop of honey from July until frost, and at the same time it furnishes the most delicious honey, light in color, and thick in body. It may be sown in waste places, fence corners, or on the roadside. Sow two years running, on the same land, and the honey crop will be without intermission. Money invested in Sweet Clover Seed will prove a good investment. The Seed may be obtained at this office at the following prices: \$6.00 per bushel (60 lbs.); \$1.75 per peck, or 20 cents per pound.

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two new subscribers besides his own, with \$3.00, for one year, we will present a copy of this valuable book.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

Our New Book List on the second page is the place from which to select the book you want. We have a large stock of every book there named, and can fill all orders on the day they are received.

One Dollar invested for the weekly visits of the AMERICAN BEE JOURNAL for a year, will richly repay every apiarist in America.

We have a large quantity of **CHOICE WHITE EXTRACTED HONEY**, in kegs holding from 200 lbs. to 225 lbs. each, which we will deliver on board the cars at 8 cents per lb. Orders solicited.

Bee-Keepers, write to the Hub Mfg. Co., New Hampton, Iowa, and learn how to free your honey-houses from Bees, Flies, etc., for 8½ cents per window. "A patent attachment for any window." 26A2t

Advertisements.

FINE YOUNG ITALIAN QUEENS.—Two for \$1; Single one, 60 cts. 27A1t **WILBER G. FISH**, Ithaca, N. Y.

BY Return Mail.—Italian Queens, Tested, \$1; Untested, 60c. Bees per lb., 50c. 26A1t **GEO. STUCKMAN**, Nappanee, Ind.

ITALIAN Bees and Queens for sale.—Untested 1 Queen, 75 cents; 6 for \$4.00. Send for Circular, Free.—**JOHN NEBEL & SON**, High Hill, Mo. 23A8t

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column.

DR. TINKER'S SPECIALTIES.

THE finest WHITE POPLAR SECTIONS and the best **PERFORATED ZINC** ever offered to bee-keepers. Our new machine makes 50,000 perforations in a day. We also claim the finest strain of **BEES** for comb honey—the **Syracuse Albino**. Price-lists of **QUEENS** and Supplies free. Samples of sections and zinc, three cents.

Address, **DR. G. L. TINKER**, 27D1t **NEW PHILADELPHIA, O.**

4,103 POUNDS OF HONEY,

GATHERED

BY 40 COLONIES IN 7 DAYS!

WE have purchased L. C. Root's celebrated breeding stock, which together with our own, gives us the choicest collection of Italian bees in the world, and one that has the

Best Honey-Producing Record Extant.

We will spare a few full Colonies and Nuclei containing some very choice breeding queens of this stock. We make a specialty of rearing **ONLY FIRST-CLASS ITALIAN BEES and QUEENS** at the

KNICKERBOCKER BEE-FARM,
G. H. KNICKERBOCKER, S. M. LOCKE,
Proprietor. Manager.

Our Circular for 1887 contains an important letter (regarding these bees) from L. C. Root, that every bee-keeper should read. Send for it before ordering Queens elsewhere. Address,

KNICKERBOCKER BEE-FARM,
14C1t **PINE PLAINS, Dutchess Co., N. Y.**

HEAD-QUARTERS IN THE SOUTH

FACTORY OF

BEE HIVES, &C.

Early Nuclei & Italian Queens.

Ninth annual Catalogue now ready.
5C1t **PAUL L. VIALLOU**, Bayou Goula, La.

REWARD!

TO WHOM IT MAY CONCERN:

I HEREBY offer \$1.00 per ratio for every one hundred feet of wire-cloth, to any one who will find parties purchasing my Patent Wire-Cloth Separator from unauthorized dealers—until further notice.

Bee-keepers will save money, and perhaps annoyance, by sending for my Descriptive Circular, before purchasing.

Address, **N. N. BETSINGER,**
9C6t **MARCELLUS, Onondaga Co., N. Y.**

CARNIOLAN QUEENS ONLY;

BRED in large apiary of Carniolan Bees, from Benton Select Imported Stock—\$1.00 each. Carniolans are the gentlest and best honey-gatherers known. Send for Circular describing Carniolans. (Mention this paper.)

S. W. MORRISON, M.D.
25D1t **Oxford, Chester Co., Pa.**



1887. ITALIAN QUEENS. 1887.

WARRANTED QUEENS FOR \$5. If you want Nice, Bright Queens, the progeny of which are good workers, and could be seen working on Red Clover at any time within the last two years, send for my Circular.

1C1t **J. T. WILSON,**
NICHOLASVILLE, KY.

BARNES' FOOT-POWER MACHINERY.



Free. Address, **W. F. & JOHN BARNES,**
45C1t **No. 484 Ruby St., Rockford, Ill.**

A GREAT SCHEME.

CAN we sell honey to the millions? Investigate our new peculiar 5-cent Package for extracted honey, eaten from the hand without knife, spoon or stick, as cleanly as to bite an apple. The first and only cheap, successful package ever invented.

We also have the first Chromo Card especially for bee-keepers. Bees, implements, etc., elegantly printed in eight colors. Italian Queens, splendid Foundation, Bees in Haddon hives, for sale and all represented on our Card. Circulars and cards giving full information free. Package of 10 Cards 10 cts. Sample Honey-Package with candied honey, 12 cts. Now is the time to look these things up for the coming season.

Address, **J. H. MARTIN,**
4C1y **HARTFORD, N. Y.**

Bee-Hives, Sections, Section-Cases,

Foundation & other Apiarian Supplies.

Send for our new Catalogue with description of

THE "SUCCESS HIVE,"

which is fast gaining the favor of many bee-men.

ALBINO QUEENS and BEES for 1887.

It should be remembered that we are also Head-Quarters for the "Albino Queens." We also breed Select Italians.

Address, **S. VALENTINE & SONS,**
14C1t **HAGERSTOWN, Wash. Co., MD.**

BINGHAM & HETHERINGTON,
10C1t **ABERDEEN, ALBANY Co., N.Y.**

Circular, to
out—sold in the United States, send card for
—and the only ones that last and do not go

For the lowest and highest priced smokers

will do when it is kindled.

old logs, brown paper or sackling; but best

will produce smoke when smoking; we use

this will burn almost any sort of fuel that

on the first day we had it. A smoker like

below, which is just as good as it was

constant use, nothing has been done to the

barrel, which became worn through from

although we have been obliged to renew the

such a smoker in use since 1878, and

other smoker we know. We have had

and that to a greater distance, than any

will send a greater volume of smoke,

\$100—says: "A real Bingham Bee-smoker

space that would have cost us more than

Illustrative of said Bingham Bee-smoker—

ing five full columns with nine cuts

Weekly "British Bee Journal," after devot-

Thomas Wm. Cowan, Editor of the

such smokers as they please or think best:

and any one can make and use and sell just

is looked upon where it is not patented

How the genuine Bingham Bee-smoker

ENGLISH OPINION.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture**, with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. **Nothing Patented.** Simply send your address written plainly, to

A. I. ROOT, Medina, Ohio.

JUST PUBLISHED,

"PRACTICAL TURKEY RAISING"



By Fanny Field. This book tells all about turkey raising, from the setting of the eggs to the maturity of the young turks. If you follow the directions in this book you need not lose a bird.

Fanny Field has had more experience and succeeds better in raising turkeys than any other person in America. She clears hundreds of dollars yearly on them, and will tell you how she does it. Price, 25 cents. Stamp taken. Address **R. B. MITCHELL,** Publisher, 69 Dearborn St., Chicago, Ill. 19C1t

